



MELISSA R JAFFE – SPATIAL WILDFIRE ANALYST

NARRATIVE

Melissa's past research includes fire effects on forest and fuel structure and understanding the frequency and location of fires across a landscape. Her forest and fire ecology and modeling experience are enhanced by her previous field experience including working as a biometrician technician, collecting, and analyzing forest structure data from various fire histories, and assisting with prescribed fires.

ACCOMPLISHMENTS

- Implemented work to map wildfire risk for the entire United States using the FSim modeling software.
- Worked collaboratively with researchers from Rocky Mountain Research Station and universities to model fire in sagebrush ecosystems with different fuelscapes.
- Currently working on housing and population density for the entire United States for wildfire risk to communities.

WORK HISTORY

Spatial Wildfire Analyst, Pyrologix LLC, Missoula, Montana

August 2022-Present

Graduate Research Assistant, University of Montana, Missoula, Montana.

Fall 2020 – Spring 2022

Academic & Professional Development Associate, University of Montana, Missoula, Montana.

2018-2020

Research Assistant, Energy & Resource Group, University of California, Berkeley, Berkeley, California.

Summer 2020

Undergraduate Lab Member, Department of Environmental Science and Policy Management, University of California Berkeley, Berkeley, California.

2018-2020

Forestry Aide-CALFIRE Biometrics Department

Summer 2019

Environmental Analyst- San Francisco Estuary Institute, Resilient Landscape Department

Summer 2018

EDUCATION

M. Sc. 2022

Forestry

University of Montana

B.S. 2020

Double Major: Ecosystem Management & Forestry, Environmental Science

University of California, Berkeley

PUBLICATIONS

Kreider, M.R., Jaffe, M.R., Berkey, J.K., Parks, S.A., A.J. Larson. 2023. A review of the scientific contributions enabled by wilderness fire management. *Fire Ecology*https://scholar.google.com/citations?view_op=view_citation&hl=en&user=6Hh_s1EAAAAJ&citation_for_view=6Hh_s1EAAAAJ:9yKSN-GCB0IC

Jaffe, M.R., B.M. Collins, J. Levine, H. Northrop, F. Malandra, D. Krofcheck, M.D. Hurteau, S.L. Stephens, M. North. 2021. Prescribed fire shrub consumption in a Sierra Nevada mixed-conifer forest. *Canadian Journal of Forest Ecology*. <https://doi.org/10.1139/cjfr-2020-0454>.

Lydersen, J., B.M. Collins, M. Coppoletta, M.R. Jaffe, H. Northrop, and S.L. Stephens. 2019. Fuel dynamics and reburn severity following high severity fire in a Sierra Nevada mixed-conifer forest. *Fire Ecology* 15: 43. <https://doi.org/10.1186/s42408-019-0060-x>.

PRESENTATIONS

Jaffe, M.R., Scott, J.H., Callahan, M., Dillon, G.K. (2023) 'Building, housing-unit, and population density rasters for the United States'. Association for Fire Ecology 10th International Fire Ecology and Management Congress, 7 December.

Jaffe, M.R., Parks, S.A. and Larson, A.J. (2022) 'Fate of early twentieth century high-severity fires: Fuels and forest structure of different fire histories'. Cal Poly Humboldt, Arcata, California (virtual)

Jaffe, M.R., Parks, S.A. and Larson, A.J. (2022) 'Fate of early twentieth century fires: fuels and forest structure of different fire histories in the Selway-Bitterroot Wilderness'. (webinar) Northern Rockies Fire Science Network, 2 March. <https://www.nrfirescience.org/event/fate-early-twentieth-century-fires-fuels-and-forest-structure-different-fire-histories-selway>

Jaffe, M.R., Parks, S.A. and Larson, A.J. (2021) 'Effects of historical high severity fire on forest structure in the Selway Bitterroot Wilderness'. Association for Fire Ecology 9th International Fire Ecology and Management Congress, Virtual, 3 December.

Kreider, M., Jaffe, M.R., Berkey, J., Parks, S.A. and Larson, A.J. (2021) 'Scientific contributions of wilderness fire management assessed through systematic review'. Association for Fire Ecology 9th International Fire Ecology and Management Congress, Virtual, 3 December.

Jaffe, M.R., Collins, B.M., Krofcheck, D., Northrop, H., Levine, J., Stephens, S.L. (2019) 'Modeling Shrub Consumption in Prescribed Fire'. Association for Fire Ecology 8th International Fire Ecology and Management Congress, 20 November.